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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,567	11/21/2001	Tae-Sung Jung	678-775 (P10024)	2637

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EXAMINER	
JOO, JOSHUA	

ART UNIT	PAPER NUMBER
2154	

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/990,567	JUNG, TAE-SUNG	
	Examiner	Art Unit	
	Joshua Joo	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

1. Claims 1-10 are presented for examination.

Response to Arguments

2. Applicant's arguments filed 7/31/2006 have been fully considered but they are not persuasive. Applicant argued that:

3. (1) Claim 1 recites the feature, "registering by the second GGSN an address of the first GGSN to which the mobile node belongs, and then transmitting to the home agent, during re-registration, a Location information message...." Examiner has mischaracterized the limitations of claim 1 and states the first GGSN transmitting to the home agent, during a re-registration, a Location information message.

4. In response, firstly, the recited feature above does not specify which GGSN transmits a Location information message to the home agent. The feature of "registering by the second GGSN," and "and then transmitting..." does not limit which GGSN transmits the message, thus any GGSN may transmit a Location Information message. It is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Secondly, Examiner's statement of "the first GGSN transmitting to the home agent, during re-registration, a Location Information message" is not a mischaracterization of the claim, but a description of the feature taught by Barnes, which is correctly applied to the claim. Nonetheless, Examiner further stated that Barnes does not specifically teach, "transmitting by the second GGSN a location information to the home agent", a feature Applicant argues that Barnes does not teach but nor defined in the claim. As

set forth in the office action filed 4/28/2006, Gustafsson teaches this feature (Pages 9-10, Section 3.4.2; Page 26).

5. (2) Examiner cites Gustafsson to teach the feature of transmitting by the second GGSN a location information message to the home agent. However, claim 1 includes the recitation "during a re-registration," as opposed to an initial registration which is performed when a mobile node first arrives at a visited domain, and Gustafsson describes a registration when a node first arrives at a visited domain.

6. In response, the feature of "re-registration" as defined by the Applicant, is not defined in the claim, i.e. that "re-registration" is not an initial registration. Applicant also argued in Remarks filed 2/23/2006 that "re-registration" is a registration caused by a change in an FA (as opposed to an GFA) using the same GFA. However, neither definition of what a "re-registration" is or is not, from Remarks filed 2/23/2006 and 7/31/2006, are defined in the claims. It is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Barnes teaches of a mobile node that moves from a location D from the location F, and sends a mobile IP registration request (Col 12, lines 55-58), which may be considered as a "re-registration." Furthermore, in Gustafsson, if the node arrives at a visited domain, the node performs an initial registration, therefore the initial registration is different from a registration performed at a different location, which then can also be considered as a "re-registration".

7. (3) Barnes does not teach or suggest transmitting the location registration request from the first GSN to the second GGSN.

8. In response, firstly, claim 1, recites the limitation, "transmitting the location registration request form the first GGSN to the second GGSN", and not first GSN to the second GGSN as recited by the Applicant. Secondly, Barnes teaches, "new GSN/FA 284 sends a modified mobile IP+ Registration Request message to the GSN/HA 254 to update its registration location information" (Col 14, lines 33-36). Therefore, Barnes teaches of transmitting a location registration from a first node to a second node.

The claims do not define a GGSN performing any functions specific to a GGSN, i.e. GGSN functions. Therefore, the claimed GGSNs are merely nodes functioning as a FA or GFA, thus a FA node or a GFA node. If Applicant is arguing that Barnes does not teach a GGSN because the GGSN is not a FA, GFA, or GSN, then it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

9. (4) Gustafson does not teach or suggest upon receiving an Agent Advertisement message with information indicating that the first GGSN supports a foreign agent function. The present application, as defined by the Claims, is drawn to a method in which a GGSN can perform an optional FA function (e.g. see, paragraphs beginning at line 3, page 11 and the line 25, page 16 of the present application). The examiner equates the GGSNs, as recited by the Claims of the present application, with the FAs of GFAs. However, Gustafsson merely teaches using FAs or GFAs, as opposed to GGSNs having an added optional FA function.

10. In response, the claims do not define a GGSN performing any functions specific to a GGSN, i.e. GGSN functions. Therefore, the claimed GGSN is merely a node functioning as a FA or GFA, thus a FA node or a GFA node. Gustafson teaches of a receiving an Agent Advertisement message with

information indicating that a first GGSN, i.e. a first node, supports foreign agent function, the Agent Advertisement message including the address of a GFA (Page 7, Section 3.3).

Applicant argued that the claims are drawn to a GGSN that can perform an optional FA function (e.g. see, paragraphs beginning at line 3, page 11 and the line 25, page 16 of the present application), which is not taught by Barnes or Gustafson. However, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

11. (5) Claim 7 recites similar recitations as those contained in claim 1 and is distinct for at least the same reasons, thus request the withdrawal of the rejection.

12. In response, claim 7 does not contain the specific features of claim 1, including for example, a second GGSN transmitting an Agent Advertisement (Claim 7), as opposed to a first GGSN transmitting an Agent Advertisement comprising the address of the second GGSN (Claim 1). Therefore, the same reasons cannot be applied to claim 7. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes et al, US Patent #6,711,147 (Barnes hereinafter), in view of Gustafsson, "Mobile IP Regional Registration" published in July 13, 2000 (Gustafsson hereinafter).

15. As per claim 1, Barnes teaches substantial features of the claimed invention including a regional tunnel management method in a mobile communication system using Mobile IP, the mobile communication system including a mobile node, a first GGSN (Gateway GPRS (General Packet Radio Service) Support Node) serving as a foreign agent for storing location information of the first GGSN, and a home agent connected to the second GGSN, for performing data communication with a correspondent node (Fig. 4. Col 7, lines 38-62; Col 8, lines 34-46. Mobile node, GSN/FA replaces GGSN of the GPRS network. Takes functionality of GGSN and FA.), the method comprising the steps of:

transmitting a location registration request from the mobile node to the first GGSN (Claim 15; Col 12, lines 55-60; Col 14, line 16-36. Registration request.),

transmitting the location registration request from the first GGSN to the second GGSN (Col 14, lines 33-36. Transmits registration request to the old GSN/FA.); and

registering by the second GGSN an address of the first GGSN to which the mobile node belongs (Col 14, lines 19-27. Old GSN/FA notified that mobile node is at new GSN/FA, and forwards packets to new GSN/F, i.e. Register address of new GSN/FA for forwarding.), and the first GGSN transmitting to the home agent, during a re-registration, a Location Information message indicating the address of the first GGSN to which the mobile node belongs (Col 14, lines 20-23, 37-47. Transmit update location message to HA.).

16. Barnes teaches significant features of the claimed invention including a node capable of both GGSN and foreign agents for receiving registration request messages; and transmitting by the first GGSN

the location information message. However, Barnes does not specifically teach, upon receiving an Agent Advertisement message with an address of the second GGSN and information indicating that the first GGSN supports foreign agent function, said Agent Advertisement message being transmitted by the first GGSN; and transmitting by the second GGSN a location information message to the home agent.

17. Gustafsson teaches of a foreign agent announcing its presence by transmitting an Agent Advertisement message with the address of a gateway foreign agent (GFA) (Page 7, Section 3.3); and transmitting location information of a mobile node to a home agent by the gateway FA (Page 9-10, Section 3.4.2; Page 26).

18. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Barnes and Gustafsson because the teachings of Gustafsson for a FA to announce its presence by transmitting an Agent Advertisement message with the address of a GFA; and transmitting location information of a mobile node to a home agent by a node acting as the GFA would improve the system of Barnes by providing an address of the node functioning as the gateway to transmit the registration request message to contact the home agent, and allowing the home agent to update mobile node information to forward data in a network if a FA receives the registration request.

19. As per claim 2, Barnes teaches the method as claimed in claim 1, wherein the location registration request transmitted by the mobile node includes the address of the first GGSN to which the mobile node belongs (Col 12, lines 55-62; Col 14, lines 16-22. Transmits registration request to the current region of GSN.).

20. As per claim 3, Barnes and Gustafsson taught the method as claimed in claim 1, wherein the Agent Advertisement message is transmitted between mobile node and GGSN. Barnes further teaches

wherein data is transmitted through a tunnel between the mobile node and first GGSN (Col 2, line 45-53; Col 9, line 53-62. Tunnel data between mobile node to foreign agent.).

21. As per claim 4, Barnes teaches the method as claimed in claim 1, further comprising the steps of:

determining by the home agent whether a destination address of data received from the correspondent node is identical to the address of the second GGSN, upon receiving data destined for the mobile node from the correspondent node (Col 3, lines 41-55; Col 9, lines 53-63. Home agent receives data and identifies address.); and

transmitting the data to the second GGSN, if the destination address of the data is identical to the address of the second GGSN (Col 13, lines 58-60; Col 14, lines 4-9. Transmit data to the old GSN/FA.).

22. As per claim 5, Barnes teaches the method as claimed in claim 4, further comprising the step of transmitting the data to the first GGSN from the home agent, if the destination address of the data is not identical to the address of the second GGSN (Col 14, lines 37-47. New GSN/FA is registered with home agent. Transmit data to the new GSN/FA.).

23. As per claim 6, Barnes teaches of providing the new location of the mobile to the home agent (Col 11, lines 17-24). However, Barnes does not explicitly teach the method as claimed in claim 1, wherein the Location Information message includes the address of the first GGSN and the address of the second GGSN. Gustafsson teaches of transmitting a message containing the address of the FA and the GFA (Page. 9-10, Section 3.4.2).

24. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Barnes and Gustafsson because the teachings of Gustafsson to transmit a message containing the address of the node serving as the FA and the node serving as the gateway would

improve the system of Barnes by providing information for the home agent to forward data to mobile nodes in networks with FA and gateways nodes.

25. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes, in view of Gustafsson and Helander et al, US Patent #6,735,187 (Helander hereinafter).

26. As per claim 7, Barnes teaches substantial features of the claimed invention including a regional tunnel management method in a mobile communication system using Mobile IP, the mobile communication system including a mobile node, a first GGSN (Gateway GPRS (General Packet Radio Service) Support Node) serving as a foreign agent for storing current location information of the mobile node or serving as a gateway foreign agent for foreign agents existing in a specific region, and a home agent connected to the first GGSN, for performing data communication with a correspondent node (Fig. 4. Col 7, lines 38-62; Col 8, lines 34-46. Mobile node, GSN/FA replaces GGSN of the GPRS network. Takes functionality of GGSN and FA.), the method comprising the steps of:

receiving through a tunnel data, if the mobile node enters a region of the second GGSN (Col 2, line 45-53; Col 9, line 53-62. Tunnel data between mobile node and foreign agent.);

transmitting a first registration request message for requesting location registration from the mobile node to the second GGSN, if the second GGSN serves as the foreign agent (Col 12, lines 55-60; Col 14, line 16-36. Transmits Registration request to GSN/FA.);

transmitting a second registration request message for requesting the location registration for the mobile node from the second GGSN to the first GGSN, if the first GGSN serves as the gateway foreign agent (Col 10, line 67 – Col 11, line 4; Col 12, line 57-62; Col 14, line 19-22. New GSN/FA sends request to old GSN/FA.); and

transmitting, during a re-registration, a Location Information message indicating location information of the mobile node from the second GGSN to the home agent, upon receiving the second

registration message (Col 14, lines 4-19, 33-37. Change FA. Transmit message to update registration location information to HA.).

27. Barnes teaches substantial features of the claimed invention including a GSN/FA node takes performs functionality similar to a GGSN and FA; creating a tunnel between the mobile node and a foreign agent (FA) for communication; and transmitting a registration request by the mobile node. However, Barnes does not explicitly teach of creating by the mobile node a GTP (GPRS Tunneling Protocol) tunnel and receiving through the created GTP tunnel an Agent Advertisement message indicating whether a second GGSN serves as the foreign agent or the gateway foreign agent, if the mobile node enters a region of the second GGSN; and the first GGSN transmitting location information to the home agent.

28. Helander teaches in the "Background" the concept of communicating through GTP tunneling, wherein the tunnel runs from a GGSN to a tunnel device (Col 2, lines 6-15).

29. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings Barnes and Helander because the teachings of Helander to provide GTP tunneling for communication would improve the system of Barnes by providing a secure path between a packet data network and the mobile station in the GPRS network.

30. Gustafsson teaches of a new FA transmitting agent advertisement message if the mobile node enters the region of the new FA; and transmitting location information of a mobile node to a home agent by a gateway FA (Page 9-10, Section 3.4.2; Page 26).

31. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Barnes, Helander, and Gustafsson because the teachings of Gustafsson for a FA to announce its presence by transmitting an Agent Advertisement message with the address of a GFA;

and transmitting location information of a mobile node to a home agent by a node acting as the GFA would improve the system of Barnes and Helander by providing an address of the node functioning as the gateway to transmit the registration request message to contact the home agent, and allowing the home agent to update mobile node information to forward data in a network if a FA receives the registration request.

32. As per claim 8, Barnes does specifically teach the method as claimed in claim 7, wherein the Location Information message includes an IP address of the first GGSN and an IP address of the second GGSN. Gustafsson teaches of transmitting a message containing the address of the FA and the GFA (Page. 9-10, Section 3.4.2).

33. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Barnes, Helander, and Gustafsson because the teachings of Gustafsson to transmit a message containing the address of the node serving as the FA and the node serving as the gateway would improve the system of Barnes and Helander by providing information for the home agent to forward data to mobile nodes in networks with FA and gateways nodes.

34. As per claim 9, Barnes teaches the method as claimed in claim 7, further comprising the steps of: transmitting the Location Information message indicating the location information of the mobile node from the second GGSN to the home agent, upon receiving the first registration request message (Col 12, lines 55-60; Col 14, line 16-36. Transmits Registration request to GSN/FA. Col 14, lines 4-19, 33-37. GSN/FA transmits message to update registration location information to GSN/HA).

35. As per claim 10, Barnes teaches the method as claimed in claim 7, further comprising the step of, upon receiving data destined for the mobile node from the correspondent node after receiving the

Location Information message, transmitting the received data from the home agent to the second GGSN to which the mobile node is currently connected (Col 14, lines 37-47. New GSN/FA is registered with home agent. Transmit data to the new GSN/FA.).

Conclusion

36. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

37. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Joo whose telephone number is 571 272-3966. The examiner can normally be reached on Monday to Friday 7 to 4.

38. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571 272-1915. The fax phone number for the organization where this application or proceeding is assigned 571-273-8300.

39. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained

from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

November 6, 2006
JJ